Cypherbridge® Systems
uLoadXL+ Secure Boot & Installer

Cypherbridge®
Trusted, safe and secure

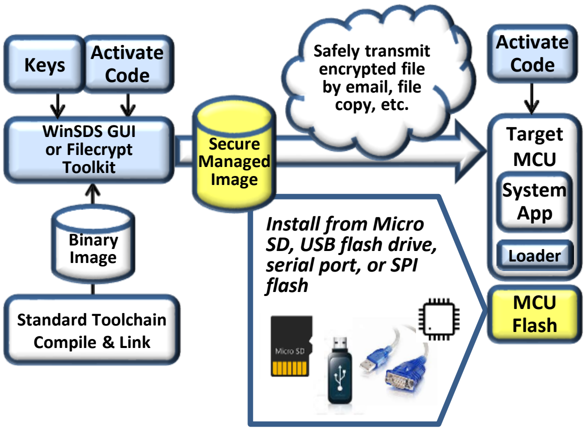
Overview

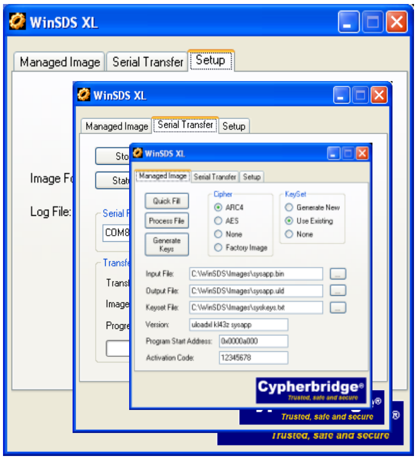
The uLoadXL+ SDK delivers advanced software update and secure boot loader solutions for embedded platforms. uload can manage software updates and distribution, encrypt images, authenticate genuine origin, & block malware.

uLoadXL+ includes Windows GUI for image management using multi-level keys and activation code.

Secure images can be transferred by email, file copy, local USB or SD flash drives, serial port or LAN/WAN network.

Secure Element for GDPR & UL2900 grade security


Keys
Activate Code
WinSDS GUI or Filecrypt Toolkit
Binary Image
Standard Toolchain Compile & Link
Secure Managed Image
Safely transmit encrypted file by email, file copy, etc.
Install from Micro SD, USB flash drive, serial port, or SPI flash
Micro SD
Activate Code
Target MCU
System App
Loader
MCU Flash



Cipher: ● ARC4 ○ AES ○ None ○ Factory Image

KeySet: ○ Generate New ● Use Existing ○ None

Input File: C:\WinSDS\Images\sysapp.bin

Output File: C:\WinSDS\Images\sysapp.uld

Keyset File: C:\WinSDS\Images\syskeys.txt

Version: uloadxl kl43z sysapp

Program Start Address: 0x0000a000

Activation Code: 12345678

When a software update is started on the embedded platform, the activation code is supplied to the loader, interactively by a field engineer or user, or securely stored in target.

The uLoadXL+ boot loader authenticates the system image, decrypts it, and saves it to the target program flash.

An incorrect activation code, or a rogue image, is blocked from installing and executing.

Target power on or reset executes system application integrity check.

- ✓ ***Platform Kit***. uLoadXL+ loader APIs are interfaced to the embedded target via integrated Platform Kit including standalone drivers for internal MCU flash, external SPI flash, removable media and flexible I/O channel including serial port.
- ✓ ***Multiple Images.*** The uLoadXL+ embedded system and APIs can be used to manage multiple images. Workflow can be programmed for primary and factory image, or alternating software images active & rollback
- ✓ ***Registry.*** Loader maintains image registry information including status and authentication signatures. System application is verified before starting execution to detect corrupt image or rogue install intrusion.
- ✓ ***Security Model.*** uLoadXL+ implements an advanced key system, selectable cipher suite, code sign and verify support including ECC and RSA, and protected embedded key material container.
- ✓ ***Robust.*** Safety and availability features include primary and backup registry copies, primary and recovery image, automatic rollback, failsafe mode, and power fail recovery.

Features

- ✓ *Add product integrity, block hacking & malware, control optional feature distribution*
- ✓ *Secure boot root of trust. Secure Element HW crypto offload, PKI attestation, and PII data storage.*
- ✓ *Install software updates for system application, graphic menus, FPGA bitstream files*
- ✓ *Image file encryption, hash integrity and authentication, code sign and verify.*
- ✓ *Images cannot be hacked if lost or intercepted*
- ✓ *Install from serial port, SD or USB file system, SPI flash*
- ✓ *Integrated loader verifies system application integrity, rollback to recovery image, & executes failsafe boot*
- ✓ *Use standard toolchain to compile and link software image. Supports IAR, Keil, GCC and all other toolchains*
- ✓ *WinSUMS Management Station*
- ✓ *WinSEPS Secure Element Profile Station including integrated provisioning fixture*
- ✓ *Platform Kits available for off the shelf MCU evaluation kits*
- ✓ *Customizable for OEM product design*

For Pricing and Availability

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